US Army Corps of Engineers
Huntington District

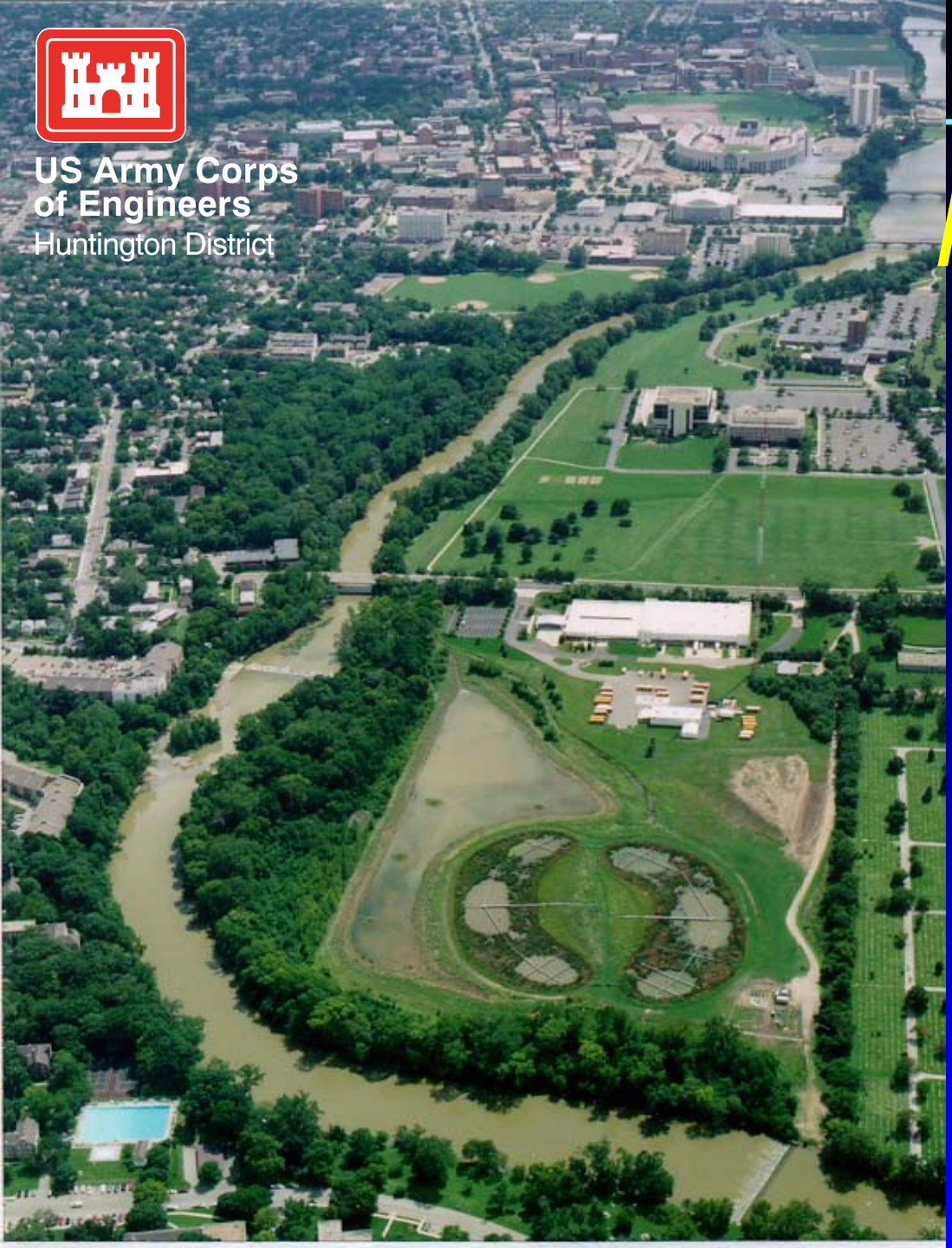
5th Avenue Dam
AQUATIC ECOSYSTEM RESTORATION ALTERNATIVES

Agenda

- Welcome
- Status of Feasibility Study
- Final Array of Alternatives Discussion
- Completion Schedule for Feasibility
- Next Advisory Board meeting

Welcome

- 5th Ave Dam Ecosystem Restoration Project
  - City of Columbus Public Utilities – Project Sponsor
  - Innovative restoration project
  - In the heart of Columbus
    - Potential for significant ecological benefits
    - Adjacent to The Ohio State University



US Army Corps of Engineers
Huntington District

One Corps, One Regiment, One Team

Project Purpose

- Investigate restoration of an impaired ecosystem
- Improve riparian and aquatic habitat on the Olentangy River from Dodrige Dam to the Confluence of the Scioto River

Multiple Stakeholders

- Importance of Advisory Committee
  - Wide range of expertise and knowledge
  - More participation means a better project
    - Friends of the Lower Olentangy River (FLOW)
    - The Ohio State University (OSU)
    - Ohio Environmental Protection Agency (OEPA)
    - Ohio Department of Natural Resources (ODNR)
    - Neighborhood and local community groups

Project Challenges

- Restoration in an Urban Setting
- Seeking balance with restoration goals through NEPA
  - Aesthetic resources
  - Recreation resources

US Army Corps of Engineers
Huntington District

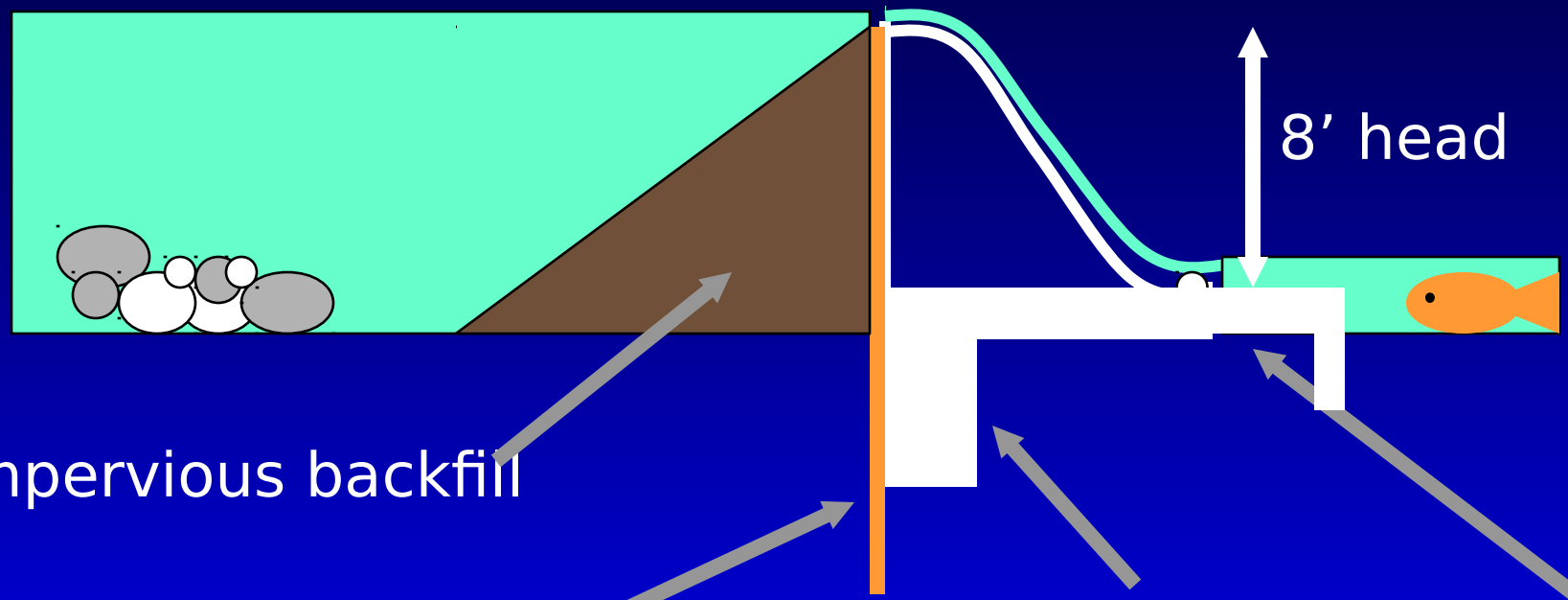
One Corps, One Regiment, One Team

Potential project alternatives

- Alt 1 - No action
- Alt 2 - Partial pool lowering
- Alt 3 - Full pool lowering
- Alt 4 - Instream & riparian habitat

Alt 1- No Action

Dam left “as is”



Side View

US Army Corps of Engineers
Huntington District

One Corps, One Regiment, One Team

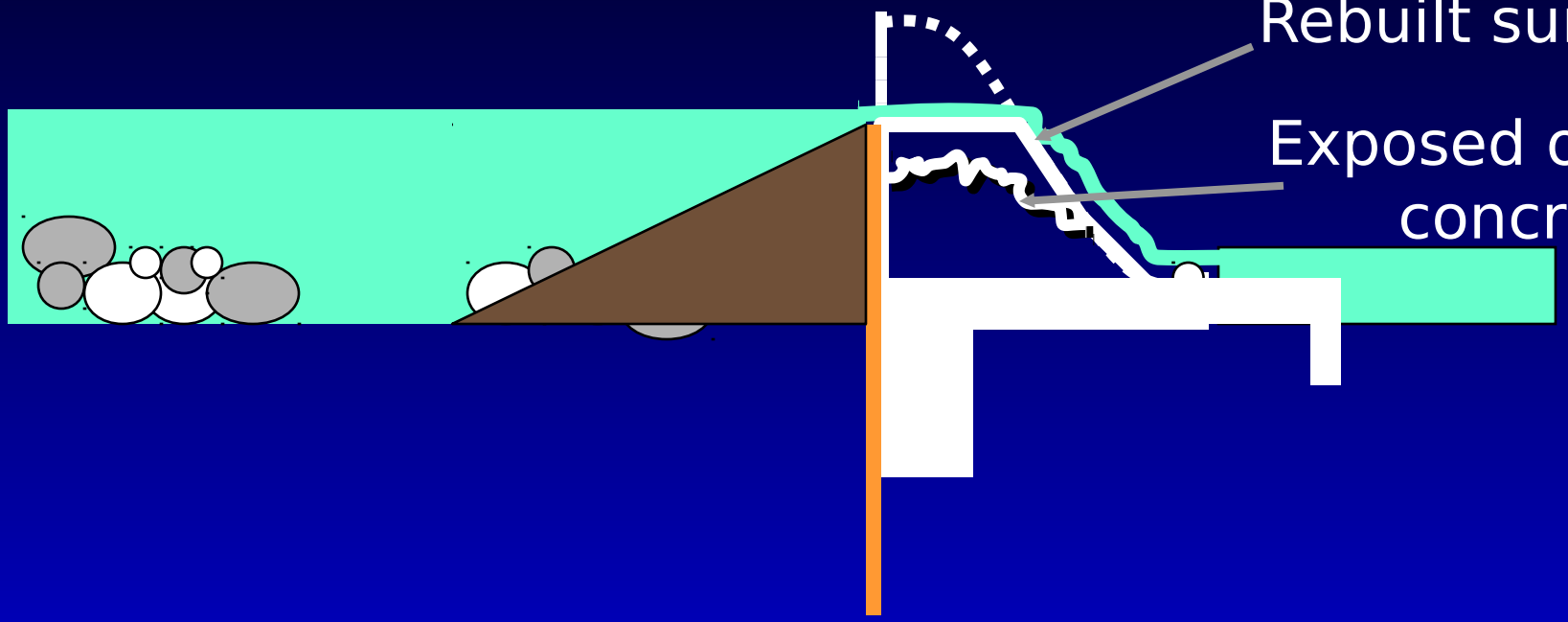
Alt 1- No Action

Front View

US Army Corps of Engineers
Huntington District

One Corps, One Regiment, One Team

Alt 2 - Partial pool lowering

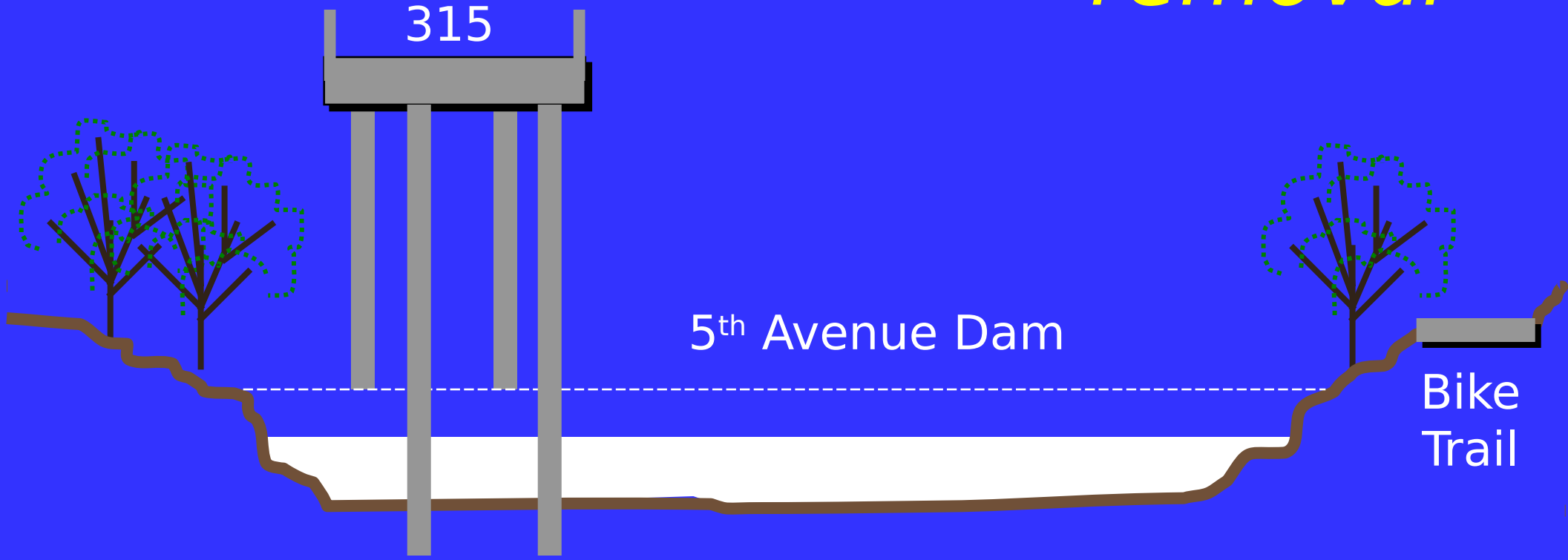


Side View

US Army Corps of Engineers
Huntington District

One Corps, One Regiment, One Team

Alt 2 - Partial pool removal



"Full width partial lowering" option

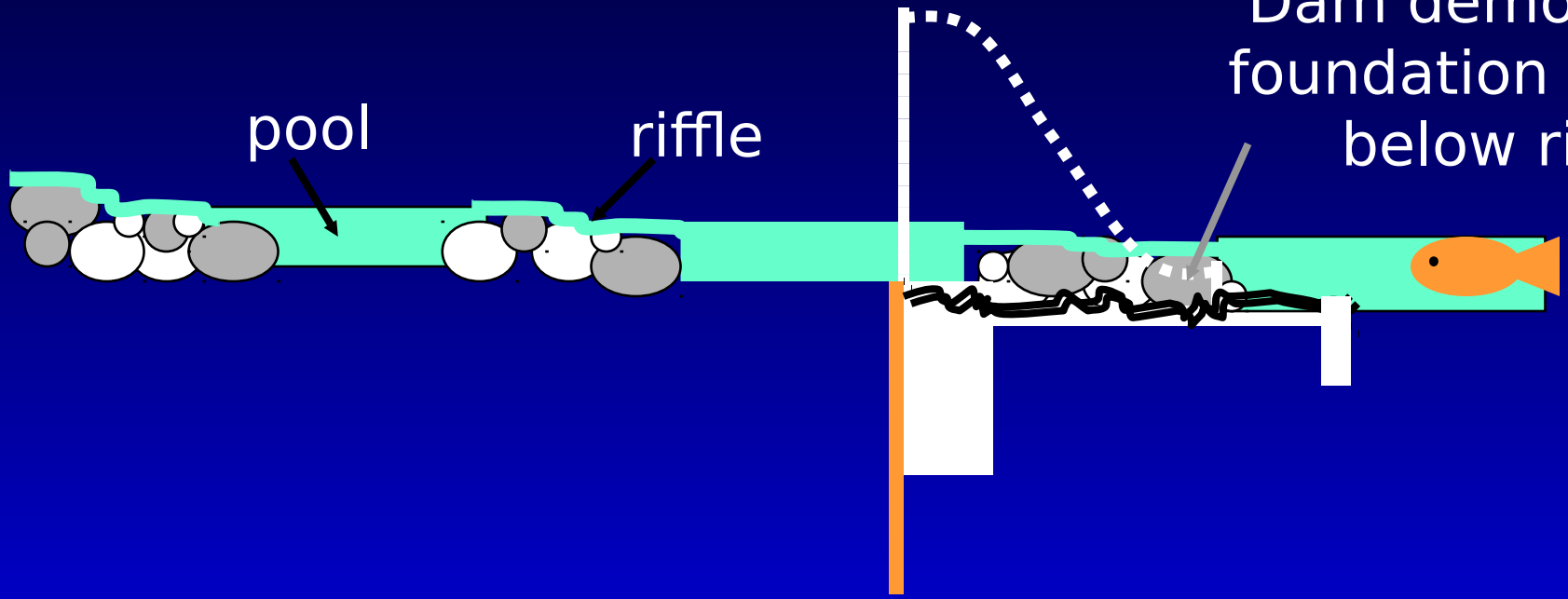
Front View

US Army Corps of Engineers
Huntington District

One Corps, One Regiment, One Team

Alt 3 - Full pool removal

Dam demolished with foundation left in place below river bed

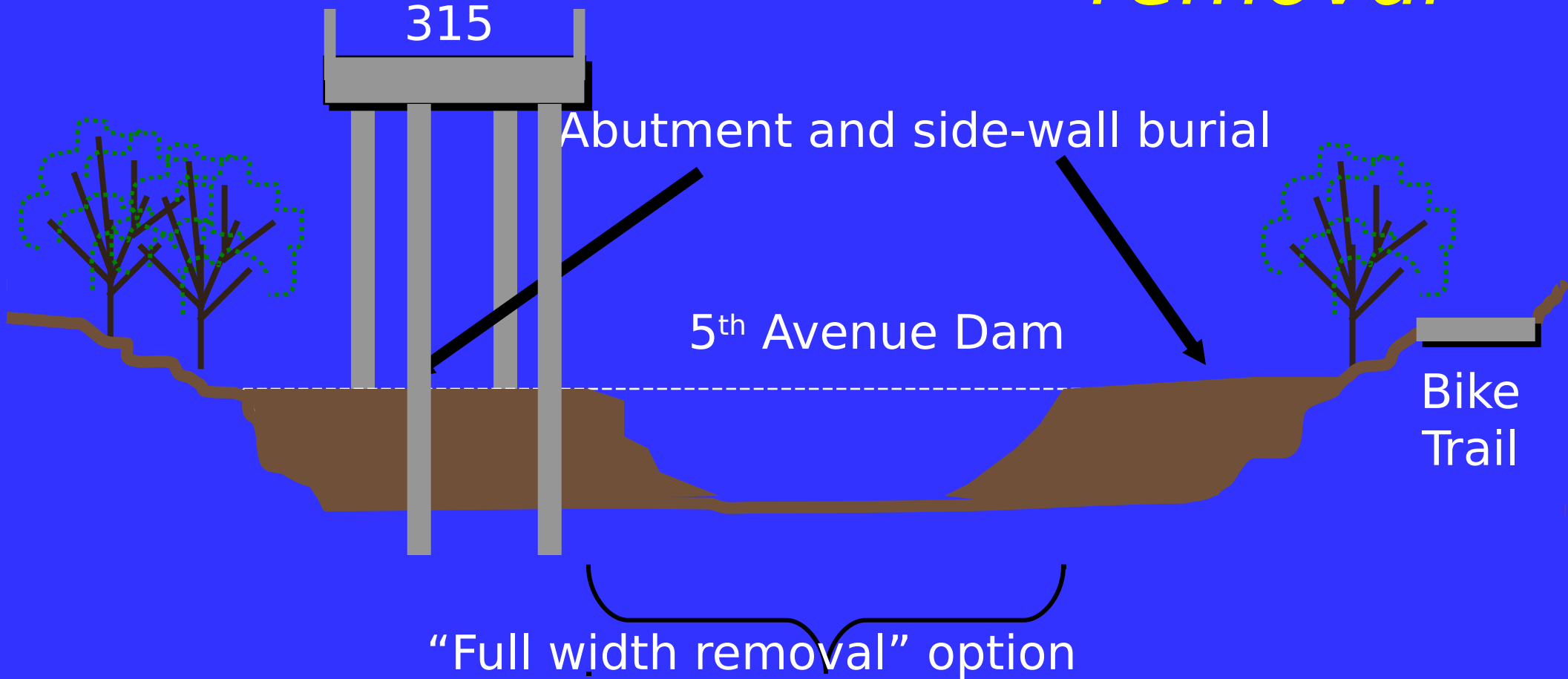


Side View

US Army Corps of Engineers
Huntington District

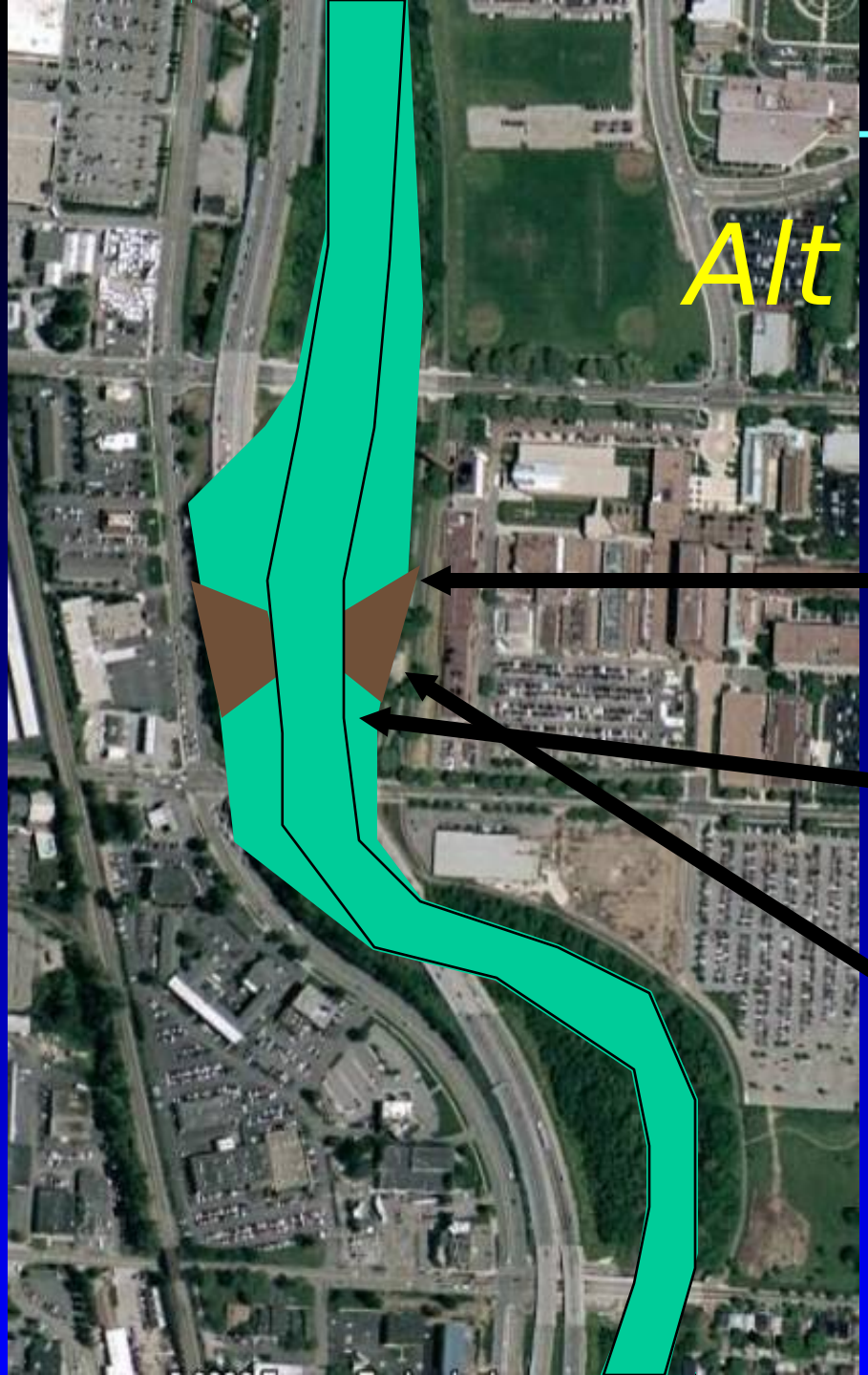
One Corps, One Regiment, One Team

Alt 3 - Full pool removal



Front View

Alt 3 - Full pool removal



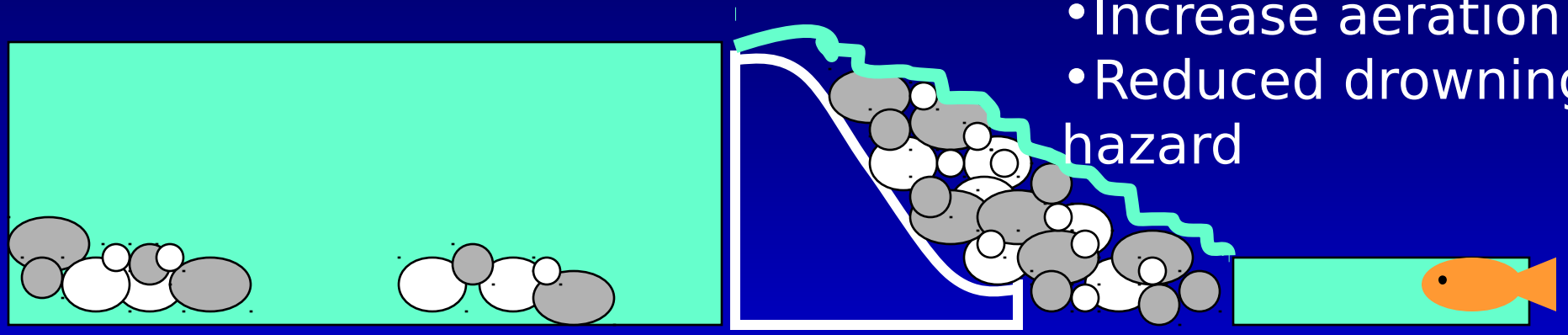
Present channel artificially widened at dam

"Partial width dam removal" channel similar to natural channel width

Cover exposed dam

Alt 4 - Instream & riparian habitat

Rock ramp



- Allow fish to cross dam
- Increase aeration
- Reduced drowning hazard

- Proven useful for migratory fish
  - (But no migratory fish in Olentangy)
- May have habitat connectivity benefit

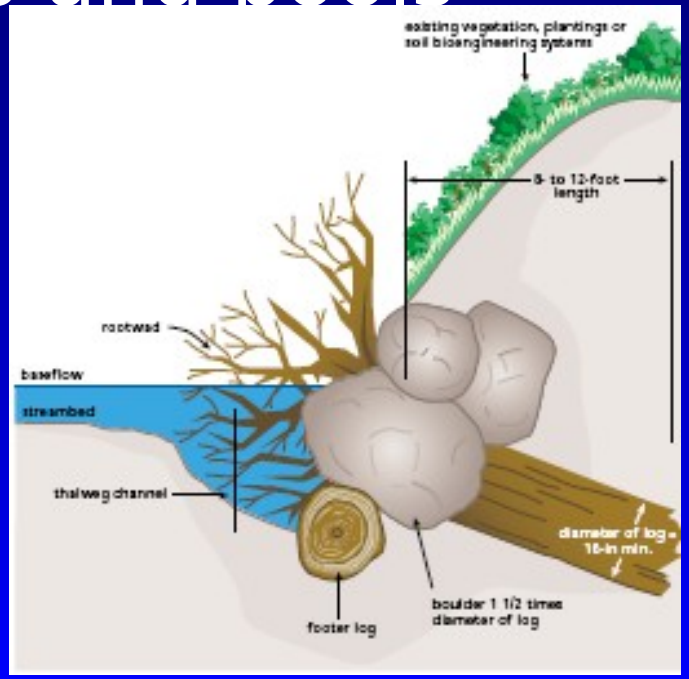
US Army Corps of Engineers
Huntington District

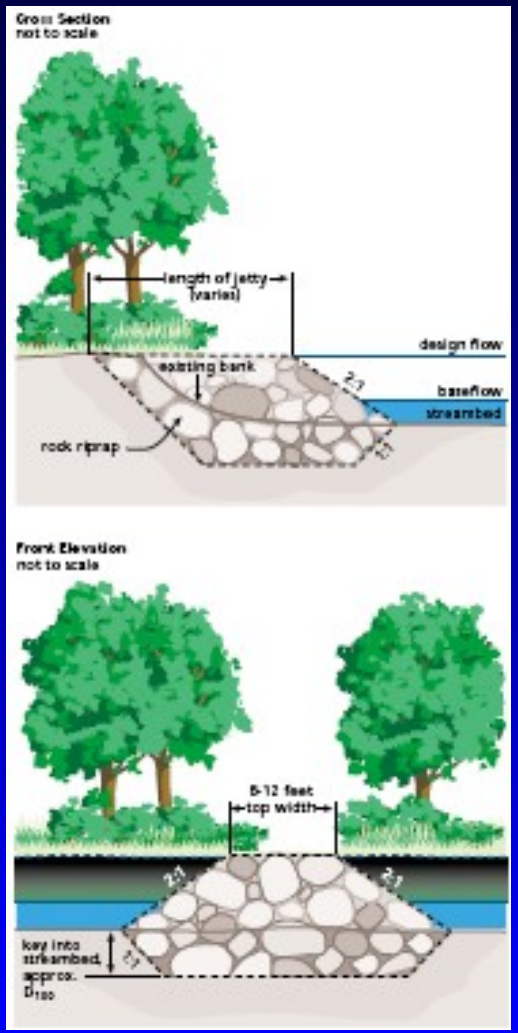
One Corps, One Regiment, One Team

Alt 4 - Instream & riparian habitat

- Woody debris and stone can be placed in the stream to provide protective habitat and create riffles and pools

- Structures can also provide aeration and bank erosion protection

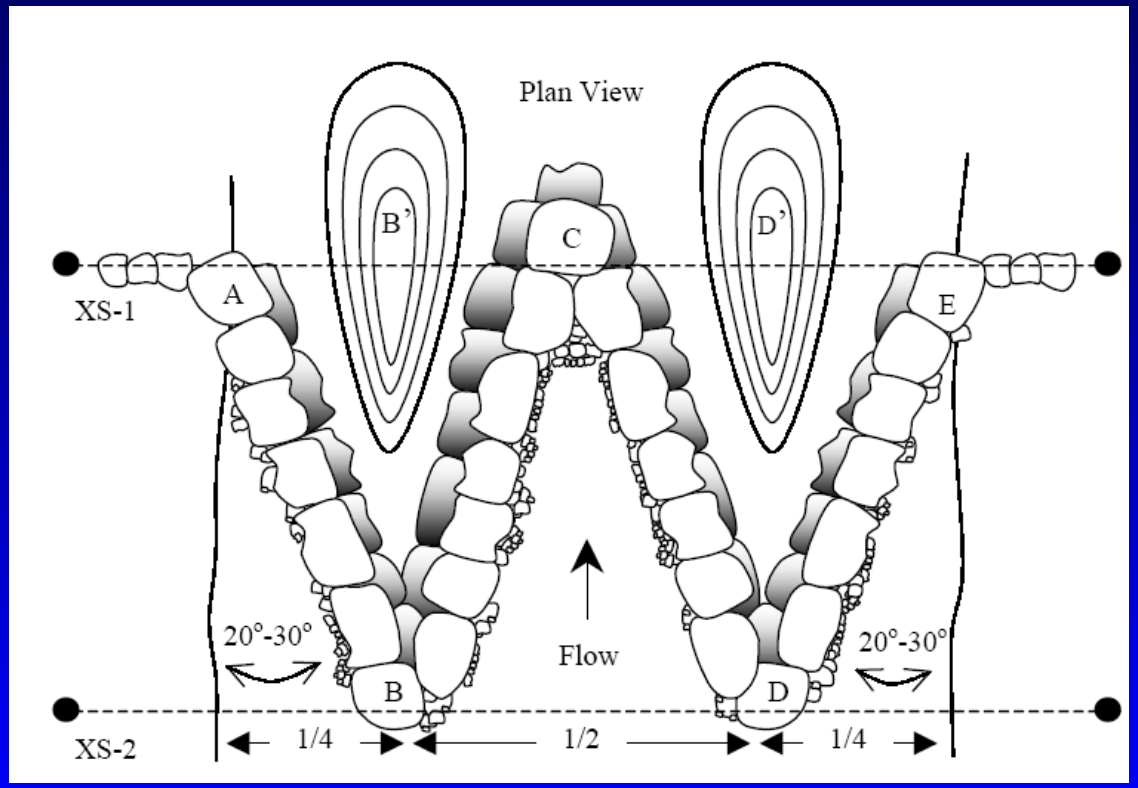




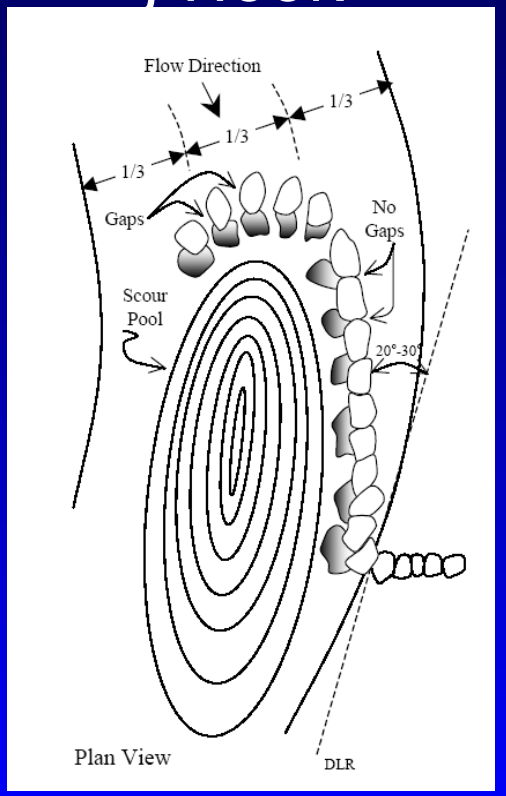
Alt 4 - Instream & riparian habitat

Artificial weir/pool structures create habitat and stabilize banks

"W Weir"



"J Hook"



From D. L. Rosgen

US Army Corps of Engineers
Huntington District

One Corps, One Regiment, One Team

Alt 4 - Instream & riparian habitat

- Enhancing vegetation alongside the river
  - Increases biodiversity
  - Intercepts, filters, and treats runoff
  - Provides food and shade for river fauna
  - Provides recreation and aesthetic benefits

Feasibility Process

- Initial screening of alternatives – Sep 06
- Activities for screening final alternatives
  - Final array of alternatives designed – Nov 06
  - Baseline of existing conditions – Dec 06
  - Benefits (QHEI) quantified for alternatives – Dec 06
  - H&H model developed for project area – Dec 06
  - Cost estimates for each alternative – Dec 06

Feasibility Process

- Preferred alternative will be based on an incremental analysis
  - Cost versus the ecological benefits
  - Analysis looks for “best buys” within combinations of alternatives
- Impact analyses for each alternative will be considered in selection of preferred alternative
  - Public health and safety

Questions/Comments